

AMENDMENTS TO THE CLAIMS

Listing of the claims:

Following is a listing of all claims in the present application, which listing supersedes all previously presented claims:

1. (Currently Amended) An image processing apparatus for processing image data supplied from an image sensor, comprising:

a delay circuit having a first input for receiving image data sequentially supplied from the image sensor, a first function circuit for delaying the received image data by a time required for defect correction process, and a first output for supplying each of the delayed image data;

a memory having a first field for storing image data of one frame and a second field for storing position data of a defective pixel of the image sensor;

a counter for counting the number of pixels of image data sequentially transferred from the image sensor; and

a defect correction circuit having a second input for receiving the image data supplied from the image sensor, a second function circuit for forming corrected image data for ~~all of the pixels~~ each pixel from the image sensor ~~regardless of whether a defective pixel exists,~~ based on image data of pixels adjacent to a pixel of interest, and a second output for supplying each of the corrected image data; and

control means for writing the image data supplied from the second output of said defect correction circuit in the first field of said memory at a storage location corresponding to the defect pixel, if a count of said counter becomes coincident with a

number corresponding to the position data of the defective pixel in the second field of said memory, and writing the image data supplied from the first output of the delay circuit in the first field, if the count is not coincident with the number corresponding to the position data of the defective pixel.

2. (Original) An image processing apparatus according to claim 1, wherein a storage location in said memory is identified by a row address and a column address, the first field stores the image data of each line at a corresponding row address, and the second field stores the position data of the defective pixel at the same row address.

3. (Previously Presented) An image processing apparatus according to claim 2, wherein the second field of said memory stores information representative of a single defective pixel or the number of consecutive defective pixels and information representative of a position of the defective pixel in each line.

4. (Original) An image processing apparatus according to claim 1, wherein said defect correction circuit circulates an average of image data of pixels adjacent to a subject pixel.

5. (Original) An image processing apparatus according to claim 1, further comprising an external memory, which store position data of defective pixel of the image sensor.

6. (Original) An image processing apparatus according to claim 1, wherein said memory is a dynamic random access memory.

7. (Original) An image pickup apparatus including a display device for displaying an image signal processed by the image processing apparatus according to claim 1.

8. (Original) An image pickup apparatus according to claim 7, wherein the display device is a liquid crystal display.

9. (Canceled)

10. (Currently Amended) An image processing method of processing image data supplied from an image sensor, comprising the steps of:

- (a) reading defective pixel position data of the image sensor from a memory;
- (b) sequentially fetching the image data from the image sensor, giving a delay, and supplying the delayed image data as an output;
- (c) counting the number of pixels of the image data fetched from the image sensor;
- (d) forming corrected image data for each pixel from the image sensor ~~all of the pixels regardless of whether a defective pixel exists~~, based on image data of pixels adjacent to a pixel of interest and supplying the corrected image data as an output; and

(e) selecting one of the outputs of steps (b) and (d), and writing the corrected image data in the memory at a storage location corresponding to the defective pixel, if a count becomes coincident with a number corresponding to the position data of the defective pixel, and writing the delayed image data not corrected in the memory, if the count is not coincident with the number corresponding to the position data of the defective pixel.

11. (Previously Presented) An image processing method according to claim 10, wherein a storage address in the memory is identified by a row address and a column address, the memory stores the position data of the defective pixel in each line at a row address corresponding to the line, and said step (e) writes the image data not corrected or the corrected image data in each line in the memory at a row address corresponding to the line and at a corresponding column address.

12. (Previously Presented) An image processing method according to claim 10, wherein said step (d) calculates an average of image data of pixels adjacent to a pixel of interest.

13. (Original) An image processing method according to claim 10, wherein said step (d) calculates an average of image data of pixels adjacent to a subject pixel in a row direction.

14. (Original) An image processing method according to claim 10, wherein said step (d) calculates an average of image data of pixels adjacent to a subject pixel in a column direction.

15. (Previously Presented) An image processing method according to claim 10, wherein said step (d) performs a weighing process in accordance with distances between pixels adjacent to a pixel of interest and the pixel of interest.

16. (Previously Presented) An image processing method according to claim 12, wherein the calculation process is a process of dividing a sum of pixel data of two pixels adjacent to a pixel of interest and cutting a lowest one bit.

17. (New) An image processing apparatus for processing image data supplied from an image sensor, comprising:

a delay circuit having a first input for receiving image data sequentially supplied from the image sensor, a first function circuit for delaying the received image data by a time required for defect correction process, and a first output for supplying each of the delayed image data;

a memory having a first field for storing image data of one frame and a second field for storing position data of a defective pixel of the image sensor;

a counter for counting the number of pixels of image data sequentially transferred from the image sensor; and

a defect correction circuit having a second input for receiving the image data supplied from the image sensor, a second function circuit for forming corrected image data for each pixel based on image data of pixels adjacent to a pixel of interest, and a second output for supplying each of the corrected image data; and

control means for writing the image data supplied from the second output of said defect correction circuit in the first field of said memory at a storage location corresponding to the defect pixel, if a count of said counter becomes coincident with a number corresponding to the position data of the defective pixel in the second field of said memory, and writing the image data supplied from the first output of the delay circuit in the first field, if the count is not coincident with the number corresponding to the position data of the defective pixel,

wherein the delay circuit and the defect correction circuit process and output the image data in parallel.

18. (New) An image processing method of processing image data supplied from an image sensor, comprising the steps of:

- (a) reading defective pixel position data of the image sensor from a memory;
- (b) sequentially fetching the image data from the image sensor, giving a delay, and supplying the delayed image data as an output;
- (c) counting the number of pixels of the image data fetched from the image sensor;
- (d) forming corrected image data for each pixel based on image data of pixels adjacent to a pixel of interest and supplying the corrected image data as an output; and

(e) selecting one of the outputs of steps (b) and (d), and writing the corrected image data in the memory at a storage location corresponding to the defective pixel, if a count becomes coincident with a number corresponding to the position data of the defective pixel, and writing the delayed image data not corrected in the memory, if the count is not coincident with the number corresponding to the position data of the defective pixel,

wherein the delay circuit and the defect correction circuit process and output the image data in parallel.